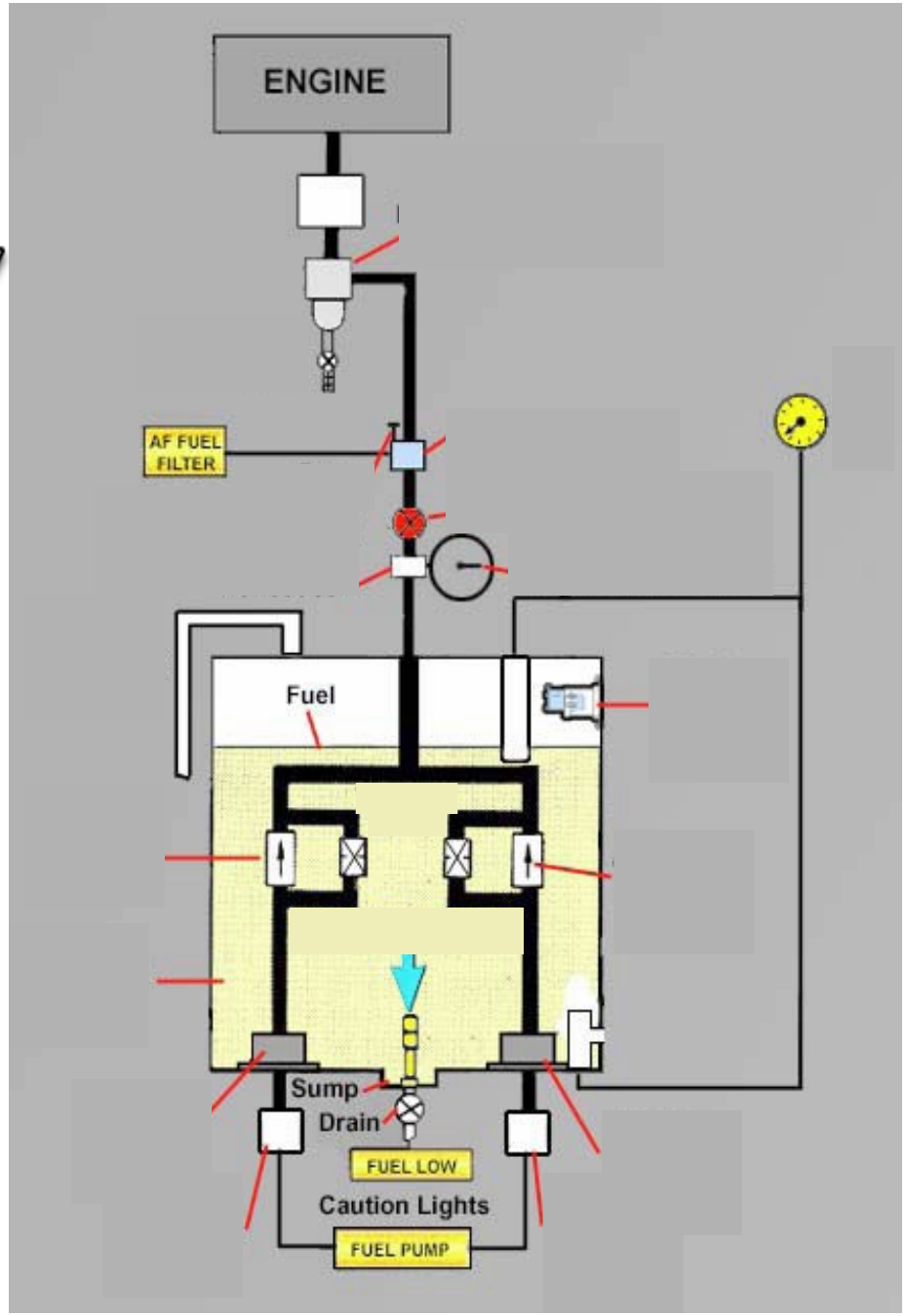
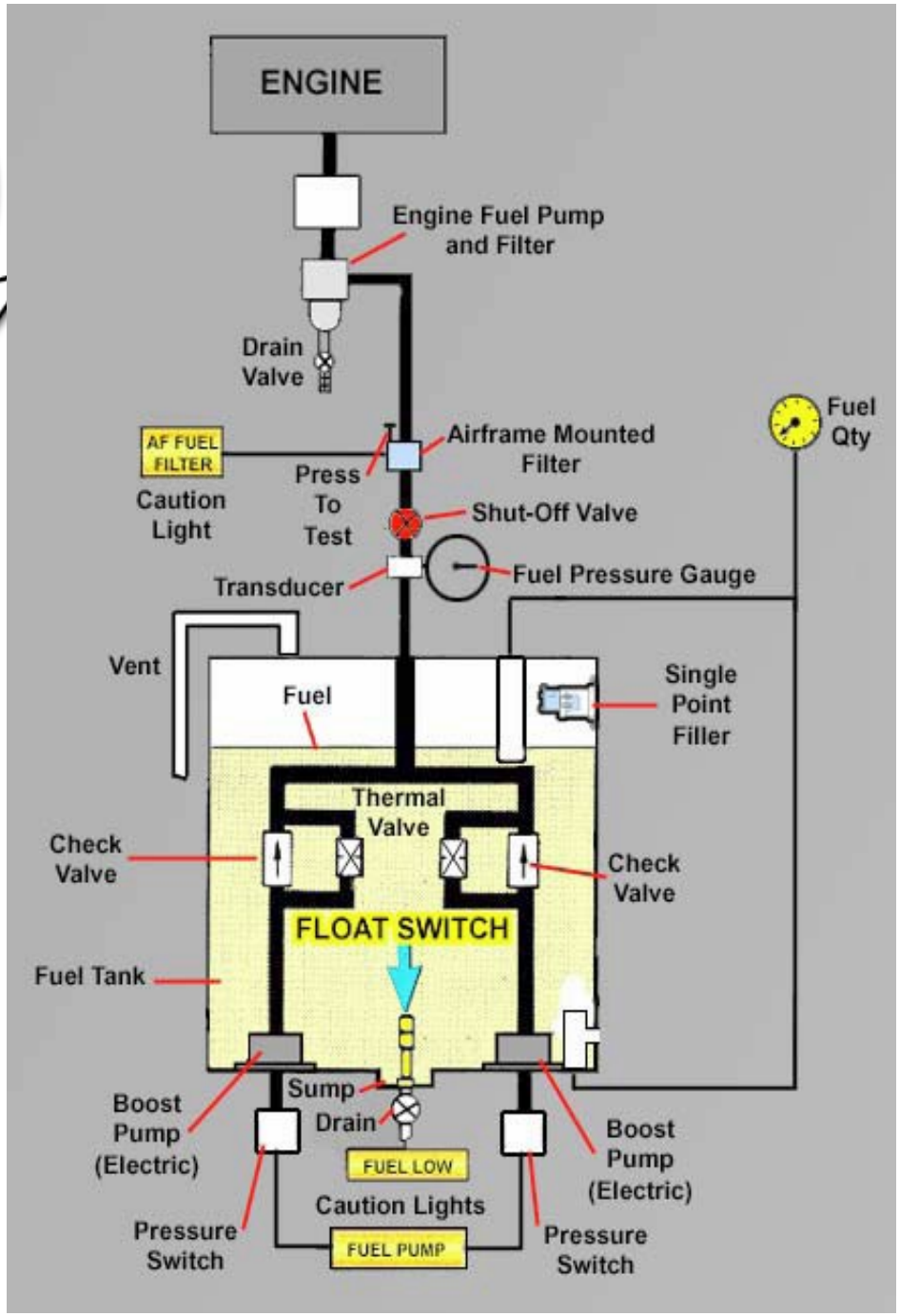
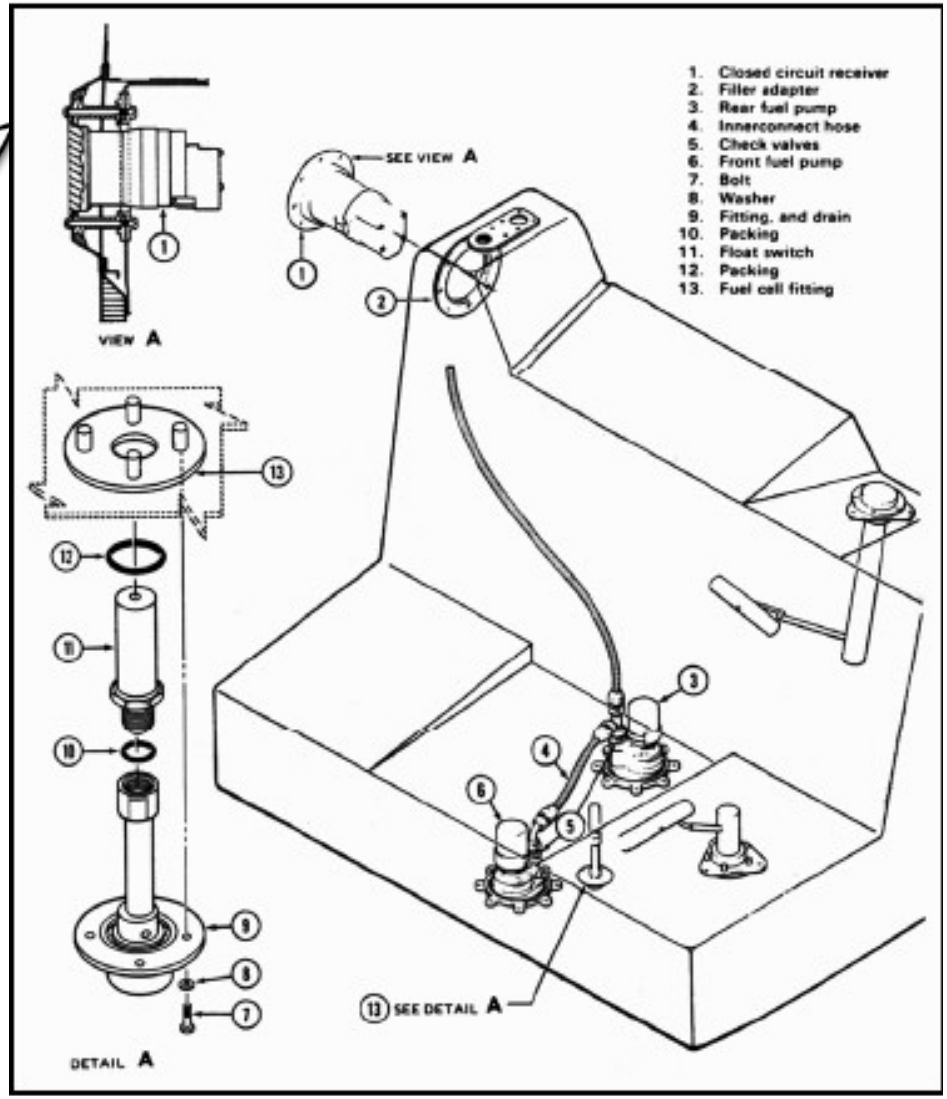
TH-57
Fuel System
Review


ENGINE
AF FUEL FILTER
Fuel
Sump
Drain
FUEL LOW
Caution Lights
FUEL PUMP


ENGINE
Engine Fuel Pump and Filter
Drain Valve
AF FUEL FILTER
Caution Light
Press To Test
Airframe Mounted Filter
Shut-Off Valve
Transducer
Fuel Pressure Gauge
Fuel Qty
Vent
Fuel
Single Point Filler
Thermal Valve
Check Valve
Check Valve
FLOAT SWITCH
Fuel Tank
Sump Drain
Boost Pump (Electric)
FUEL LOW
Caution Lights
FUEL PUMP
Pressure Switch
Pressure Switch
Boost Pump (Electric)

The two electrical boost pumps installed inside the fuel cell are interconnected by a hose so that they can furnish pressurized fuel through a single line to the engine-driven fuel pump. This pressurization prevents

in-line v[illegible]ion above 6,000 Pressure Altitude.


1. Closed circuit receiver
2. Filler adapter
3. Rear fuel pump
4. Innerconnect hose
5. Check valves
6. Front fuel pump
7. Bolt
8. Washer
9. Fitting, and drain
10. Packing
11. Float switch
12. Packing
13. Fuel cell fitting
SEE VIEW A
VIEW A
SEE DETAIL A
DETAIL A

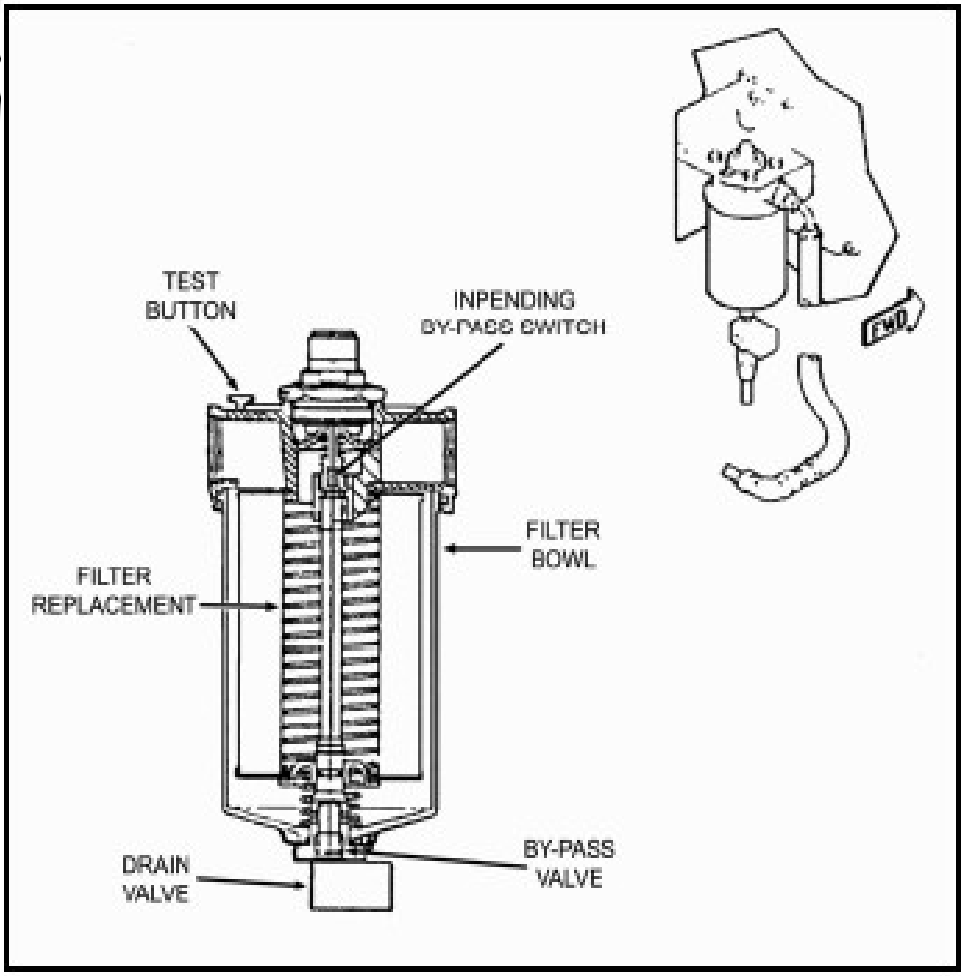


Figure 3-9 Airframe Fuel Filter

The engine fuel pump is located on th t
of the power accessory gearbox.

Fuel enters at the inlet port of the pump and passes through a low pressure inlet at 4 to 30 PSI to the gear element of the fuel pump.

The engine driven fuel pump pressurizes fuel at 650-750 psi and passes it to the fuel control

CHAPTER 3

Service and Handling

Fuel definitions:

a. Primary fuel — A fuel that the aircraft was designed to use for continuous unrestricted operations.

b. Alternate fuel — A fuel that the aircraft can use without operational restrictions. Alternate fuels may have long-term durability or maintainability impacts if used for extended periods of operation (several months).

c. Restricted fuel — A fuel that imposes operational restrictions on the aircraft. These fuels may be used only if no primary or alternate military or commercial fuels are available.

	U.S. MIL CODE	NATO CODE	MIL SPEC	COMMERCIAL DESIGNATION (SPEC)	BRITISH SPEC (DESIGNATION)	WT	NOTES
PRIMARY FUELS	JP-5	F-44	MIL-DTL-5624	NONE	DEF STAN 91-86 (AVCAT/FSII)	5.8	1, 4a
	JP-8	F-34	MIL-DTL-83133		DEF STAN 91-87 (AVTUR/FSII)	5.7	1, 4a, 5, 8
ALTERNATE FUELS	NONE	F-35	MIL-DTL-83133	JET A-1 (ASTM D-1655)	DEF STAN 91-91 (AVTUR)	5.7	2, 3, 4b, 5, 6
	NONE	NONE	NONE	JET A (ASTM D-1655)	NONE	5.7	2, 3, 4b, 5, 6
	JP-4	F-40	MIL-DTL-5624	JET B (ASTM D-6615)	DEF STAN 91-88 (AVTAG/FSII)	5.5	2, 3, 4b, 5, 6, 7

3.1.1 Crew and Truck

Only authorized and qualified personnel shall operate fueling equipment. The plane captain shall be responsible for fueling the helicopter after each flight and will make a visual check to ensure the proper fuel is used. Do not locate the helicopter in the vicinity of possible sources of ignition such as blasting, drilling, or welding operations. A minimum of 50 feet should be maintained from other aircraft and 75 feet from any operating radar set. Aircraft servicing vehicles will be positioned parallel to the helicopter during any servicing operation.

CAUTION

While pressure refueling, fuel pressure should not exceed 40 psi. Fuel can be forced through the vent system, causing a fuel spill.

14.32 FUEL BOOST PUMP FAILURE

Indications:

FUEL PUMP caution light.

Indicated fuel pressure of zero (dual-pump failure).

Procedures:

*1. Descent — Initiate if above 6,000 feet PA and flight permits.

*2. Fuel pressure and quantity — Note.

WARNING

With one or both boost pumps inoperative, minimum fuel is 20 gallons; 10 gallons is considered unusable.

If both fuel boost pumps have failed (fuel pressure at zero):

WARNING

Be prepared for complete power loss.

*3. FUEL BOOST circuit breakers — Pull.

*4. Land as soon as possible.

If only one boost pump has failed (fuel pressure 4 to 30 psi):

*5. Failed boost pump — Identify.

WARNING

Do not pull circuit breakers in an attempt to identify the failed boost pump until below 6,000 feet PA.

If unable to identify failed boost pump or FUEL LOW caution light is illuminated:

*6. Ensure both boost pump circuit breakers are in.

*7. Land as soon as possible.

If able to identify failed boost pump:

8. Failed boost pump circuit breaker — Pull.

9. Land as soon as practical.

WARNING

If an air leak exists in the fuel lines between the boost pumps and engine, a total loss of boost pump pressure could cause an engine flameout.

18
HELTRARON 18

HELLIONS
GET LUCKY

14.10 SUSPECTED FUEL LEAKAGE

Indications:

Unusual fuel usage.

Fuel fumes in cockpit.

Procedures:

*1. Land as soon as possible.

If time and altitude permit:

*2. Transmit position and intentions.

*3. Unnecessary electrical equipment — Secure.

WARNING

If an air leak exists in the fuel lines between the boost pumps and engine, turning off all electrical power could cause an engine flameout due to a total loss of boost pump pressure.

When on deck:

4. Shutdown — Completed.

5. Helicopter — Exit.

14.28.8 Fuel Quantity Indicator

If the fuel quantity indicator drops to zero or fluctuates, utilize elapsed time to judge available remaining fuel. Land as soon as practical.

FUEL LOW	Less than 20 gallons of fuel remaining.	Monitor fuel quantity, land with minimum of 10 gallons indicated. If fuel pump light is on, land as soon as possible.